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Hub, notably for bicycles and such like

Claims

1. Hub, especially for bicycles and similar contrivances, having:

a hub axle,

a hub shell rotatably mounted relative to said hub axle by means of at least two roller bearings,

whereby at least two of said roller bearings are arranged adjacent to one another at an essentially narrow spacing,

and whereby said roller bearings each comprise roller bodies, each arranged at a predetermined distance to one another.

2. Hub, especially for bicycles and similar contrivances, having:

a hollow hub axle,

a hub shell rotatably mounted relative to said hub axle by means of roller bearings,

whereby said roller bearings each comprise roller bodies which are each arranged at a predetermined distance to one another; and

said hub axle comprises a first diameter section provided for being inserted into a bicycle frame drop-out; and

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said hub axle further comprises a second diameter section arranged essentially in the central section of the hub axle, said second diameter section comprising an outer diameter and an inner diameter, whereby the inner diameter of said second diameter section is equal to or larger than, for example, the outer diameter of said first diameter section.

3. Hub according to at least one of the preceding claims, especially for rear wheels of bicycles and similar contrivances, further having:

a rotator rotatably mounted relative to said hub axle by means of at least one roller bearing;

a freewheel device disposed between said rotator and said hub shell.

4. Hub according to at least one of the preceding claims, **characterized in that** the roller bodies of all roller bearings with bearing cages are arranged at predetermined distances.
5. Hub according to at least one of the preceding claims, **characterized in that** said roller bearings are grooved ball bearings and/or needle bearings, preferably comprising seals against dust and/or water, and which are especially preferred as maintenance-free.
6. Hub according to at least one of the preceding claims, **characterized in that** at least one of said roller bearings, preferably two or more of said roller bearings, and especially preferred the two outer bearings for bearing said hub shell, are/is mounted as floating bearings, the fitting accuracy of said floating bearing/s being between 0.02 mm and 0.5 mm, and, especially preferred, between 0.05 mm and 0.15 mm.
7. Hub according to at least one of the preceding claims, **characterized in that**

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said hollow hub axle is of essentially cylindrical shape, and that an outer surface of said hollow hub axle may comprise at least one stop directly abutting up against one of said roller bearings.

8. Hub according to at least one of the preceding claims, **characterized in that** said hub is essentially detachable without the use of tools (manually).
9. Hub according to at least one of the preceding claims, **characterized in that** said rotator may essentially be removed or extracted without the use of tools (manually).
10. Hub according to at least one of the preceding claims, **characterized in that** a right, respectively left, adapter ring is arranged at least on one end, preferably on both ends of said hollow hub axle, and which is screwed or slipped onto said hub axle.
11. Hub according to at least one of the preceding claims, **characterized in that** at least one sealing means is disposed between said hub axle and said hub shell.
12. Hub according to at least one of the preceding claims, **characterized in that** said freewheel device comprises two gear rings which are essentially arranged concentric to said hub axle, and the toothed surfaces of which are pushed towards one another by means of a pre-tensioning device, whereby one or both gear ring(s) is retained as (a) floating gear ring(s).
13. Hub according to at least one of the preceding claims, **characterized in that** said freewheel device comprises one, preferably two, three or four ratchet pawls.
14. Hub according to at least one of the preceding claims, **characterized in that** at least one sealing means is arranged between said rotator and said hub shell.
15. Hub according to at least one of the preceding claims, **characterized in that** at least one sealing means comprises at least one elastomer sealing element.

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16. Hub according to at least one of the preceding claims, **characterized in that** at least one sealing means comprises at least one labyrinth seal.
17. Wheel, especially for bicycles and similar contrivances, having a hub according to at least one of claims 1 through 16.
18. Multi-wheel cycle, preferably two-wheel cycle, preferably bicycle, having at least one hub according to at least one of claims 1 through 16.

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